

**... a major breakthrough in economical data processing**

**NCR<sup>\*</sup>**  
**390**





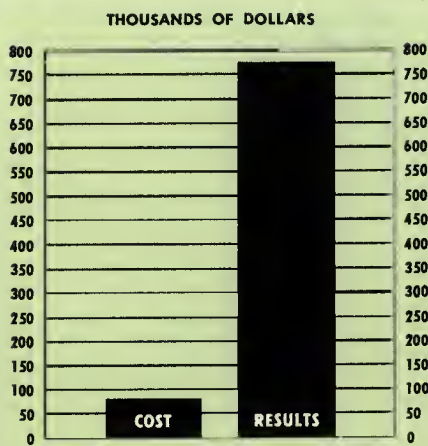
# THE 390

*... an electronic data processing system you should investigate*

*ECONOMICAL in price ...*

*POWERFUL in performance ...*

*VERSATILE in use ...*



*at a practical COST vs. RESULTS ratio*

94701

*high-speed electronic data processing*



*for all lines of business, for all applications*



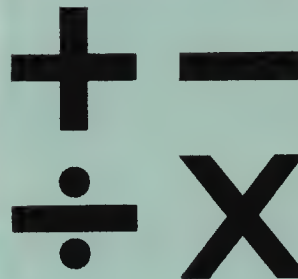
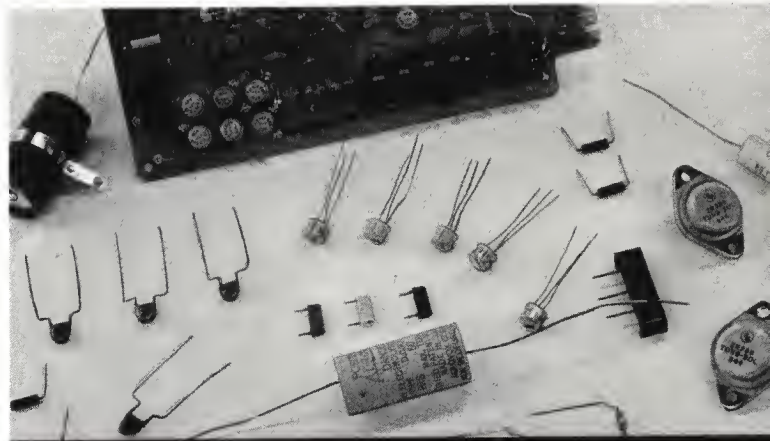
**UNIQUELY DIFFERENT...**

The NCR 390... a low-cost electronic data processing system... is designed to use the many advanced features of modern electronics...

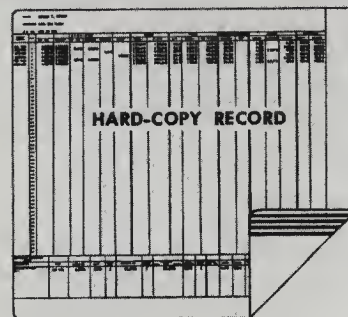
**PLUS** the principles, logic, and decision making abilities of large-scale electronic data processing systems...

**PLUS** immediately accessible, random-access, magnetic-tape ledger records that can be read by people as well as the 390.

To assist you in properly evaluating the advantages of the NCR 390, this brochure highlights the many features... and outstanding time-and-money savings capabilities of this highly versatile system.



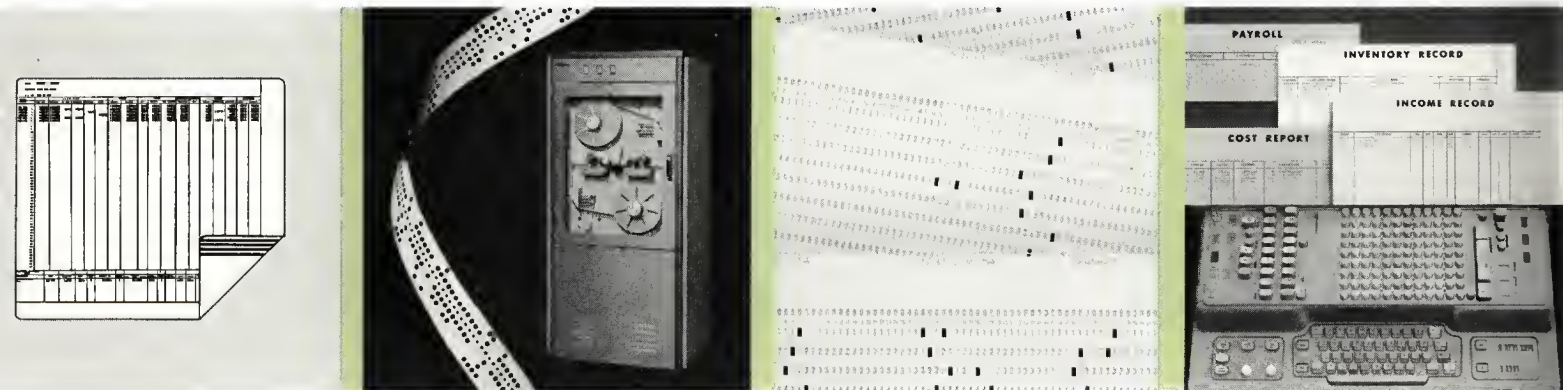
*ELECTRONIC* sorting  
*ELECTRONIC* summarizing  
*ELECTRONIC* comparisons  
*ELECTRONIC* decisions  
*ELECTRONIC* calculations  
*ELECTRONIC* accumulations and  
balance updating  
*ELECTRONIC* program modification  
*ELECTRONIC* control over  
peripheral equipment



**ELECTRONIC-LANGUAGE**

# Let's take an over-all look at the

## PROVIDES 4 FLEXIBLE METHODS OF INPUT



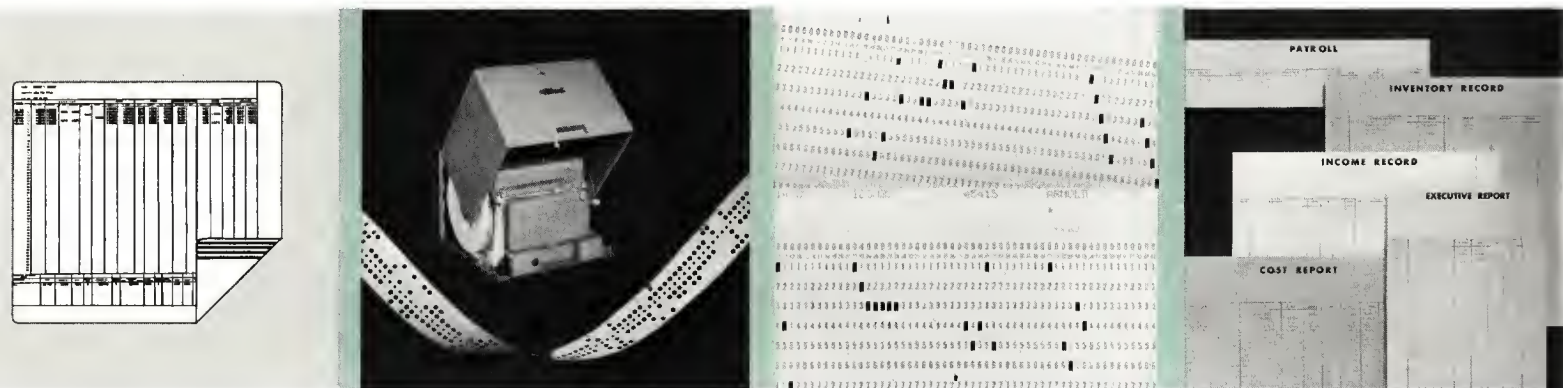
**MAGNETIC-TAPE  
LEDGER RECORDS**

**PUNCHED  
PAPER TAPE**

**PUNCHED  
CARDS**

**FLEXIBLE  
CONSOLE FACILITIES**

## PROVIDES 4 FLEXIBLE METHODS OF OUTPUT



**MAGNETIC-TAPE  
LEDGER RECORDS**

**PUNCHED  
PAPER TAPE**

**PUNCHED  
CARDS**

**VISIBLE PRINTED  
RECORDS**



## **Magnetic tape ledgers are**

### *Provides dual-purpose records .*

Ledgers serve as immediately accessible electronic-language records . . . and as visible, human-language, hard-copy. They serve as both input and output communication with the processor . . . permit unlimited random-access to external memory, and to hard-copy accounting data.

*Provides flexible external storage of data . . .* Magnetic strips on each ledger are capable of storing a large variety of information (balances, account numbers, next open posting line, credit ratings, rates, over and under limits, program instructions). Data is stored



## **versatile 390**

### **PROCESSOR**

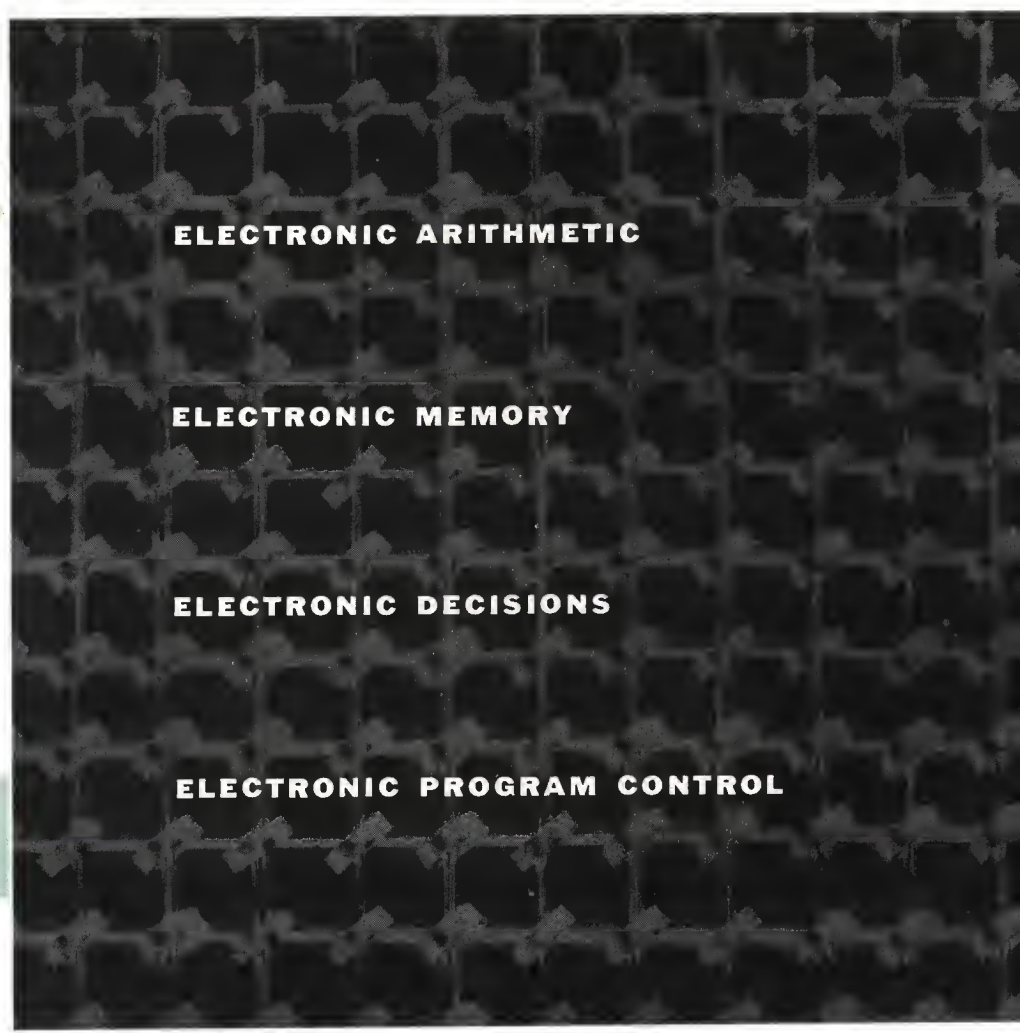


Solid-State, Modular design.

No high-cost site preparation required.

No air-conditioning required.

Operates on standard electric power supply.

Provides high-speed internal operation.



**ELECTRONIC ARITHMETIC**

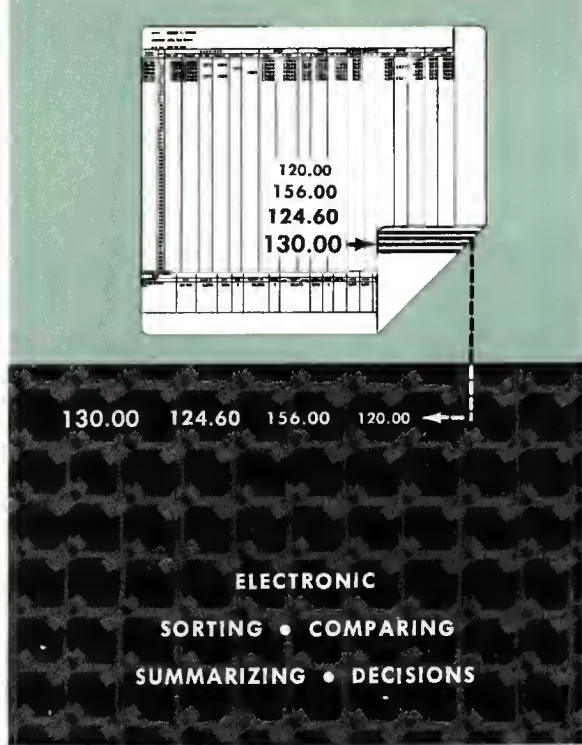
**ELECTRONIC MEMORY**

**ELECTRONIC DECISIONS**

**ELECTRONIC PROGRAM CONTROL**

. . . an economical, practical approach to data organization.





## readable by machine and by people

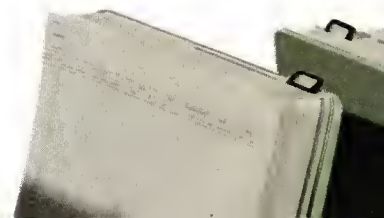
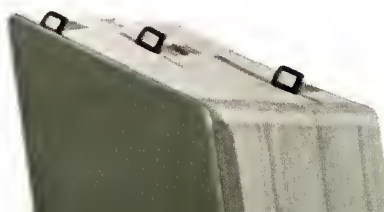
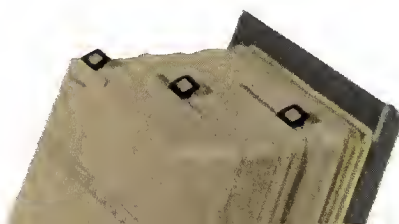
Variable record sizes . . . eliminates wasted space between electronic words . . . permits greater utility of magnetic tapes.

*Provides magnetic-tape storage combined with its hard-copy counterpart . . .* Permits simultaneous access to both human-language and electronic-language . . . eliminates separate searching operations . . . and speeds the flow of data.

*Provides wide flexibility in programming . . .* Programs can be stored on magnetic-tape ledger records . . . program instructions are printed in

human-language on front side of record, and are stored in electronic language on the magnetic-tape strips. Program changes are simple and easy to make . . . only that portion of the program requiring a change need be affected—entire programs need not be destroyed or re-encoded.

*Provides greater internal memory capacity . . .* Memory on magnetic-tape ledger records is introduced into the processor as needed—on a random-access basis . . . permits greater flexibility of processing . . . permits greater utility of internal memory for programming and for processing.





**Provides flexible paper tape input**



NCR HIGH-SPEED PHOTO-ELECTRIC READERS  
*Accounting & Reporting Data Programs • Statistics*

## and output

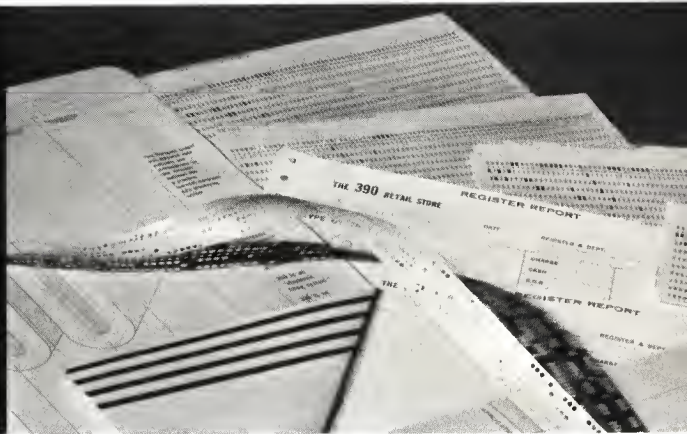
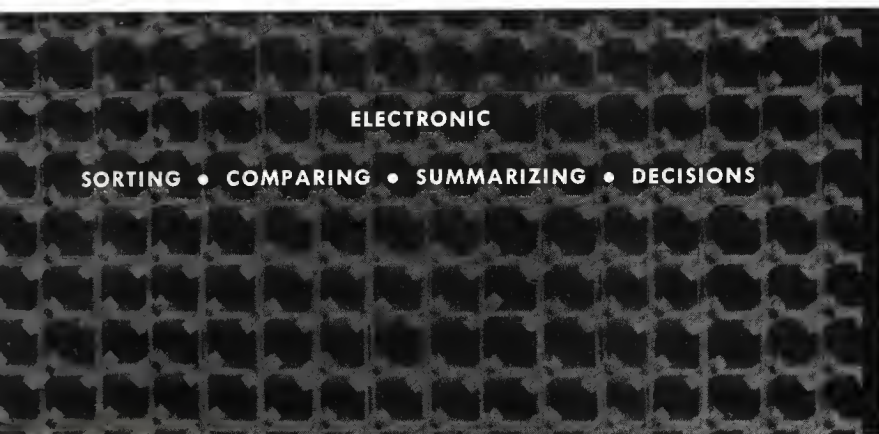
*Provides outstanding processing versatility*  
... Program can be stored on paper tape and automatically introduced into the system as needed ... data requiring processing is automatically read in and electronically acted upon ... processed data, requiring storage for future use, is automatically recorded into paper tape—all in one integrated operation—all at high-speed—all without operator intervention.

*Provides the ability for data in random or sequential order to be automatically read into the system* ... Paper tape on reels or in strip form is read with equal ease. Automatic paper tape re-winding on the reel reader is time-shared with other input, processing or output functions.

*Provides unlimited external storage of data* ... Output onto punched paper tape permits data to be stored independent of the processor ... and greatly expands the internal memory capacity of the system.

*Provides high-speed flow of data ... compatible with other IDP or EDP systems* ... Punched paper tape can be created as an independent operation at some remote or centralized location ... then introduced into the system for electronic processing. Similarly, punched paper tape can be created on-line and later used in the 390 system, or introduced into other types of processing units.

*Provides valuable reliability checks and controls* ... Parity check on paper tape input and output verifies the correctness of punching patterns and assures that the punching conforms to the proper code ... Answer-back on output recording verifies that each step of the punching program has been completed ... Broken tape halts the system on input and output ... and Internal Logic verifies the correctness of frame lengths being read from tape, and verifies that input word lengths are in agreement with program requirements.

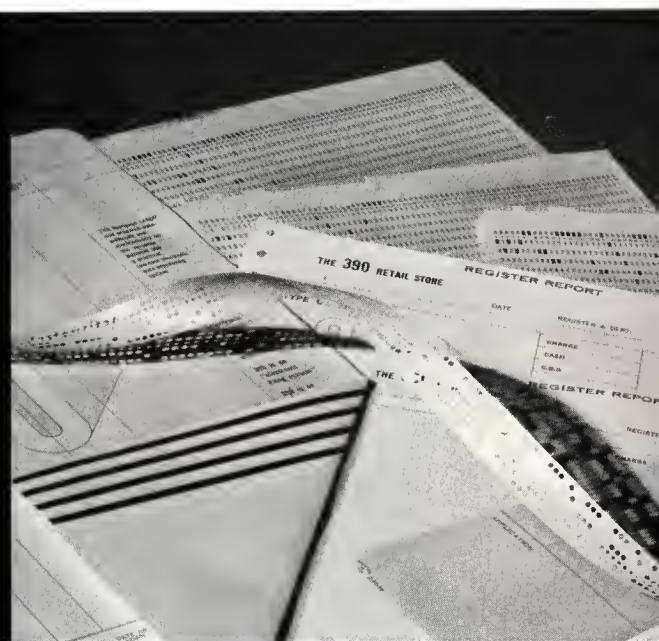
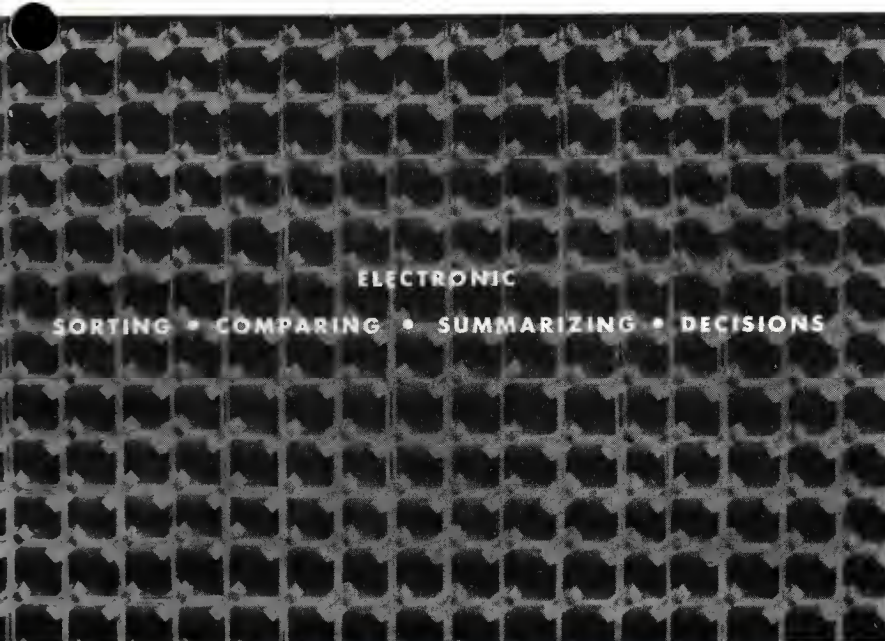


*... all working simultaneously to speed data processing*









*Permits immediate integration of the 390 into existing punched card installations . . .* If you are currently using a punched card system, the NCR 390 will bring high-speed electronics to your processing procedures . . . requiring a minimum of conversion time . . . completely compatible with your present card formats.

*Provides a highly versatile, integrated electronic "tabulating" system . . .* Punched cards are automatically read into the processor . . . the data is organized and processed electronically . . . the desired reports and hard-copy records are developed automatically . . . and the required output data is stored in machine-language form on punched cards or punched paper tape, and on magnetic-tape ledger cards . . . all in one integrated operation.

*Permits alpha-numeric data to be stored on unit punched card media . . . and to be processed in random or sequential order . . .* For example, daily transactions—in random order—can be read into the 390. The processor will sort the numerical data and develop the necessary output. Or, cards—in a required sequential order—may be read in

and combined with data read in from the console, from punched paper tape, or from magnetic-tape ledger records and the desired output will be developed, including activation of the alpha portion of the console printer . . . thus providing a truly versatile processing system.

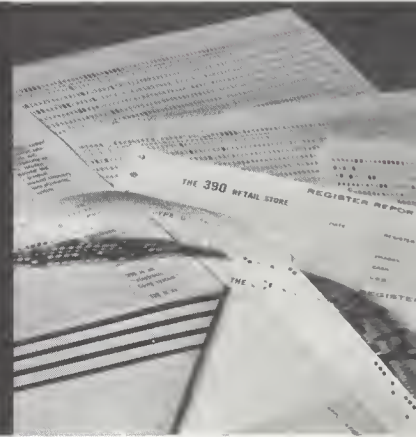
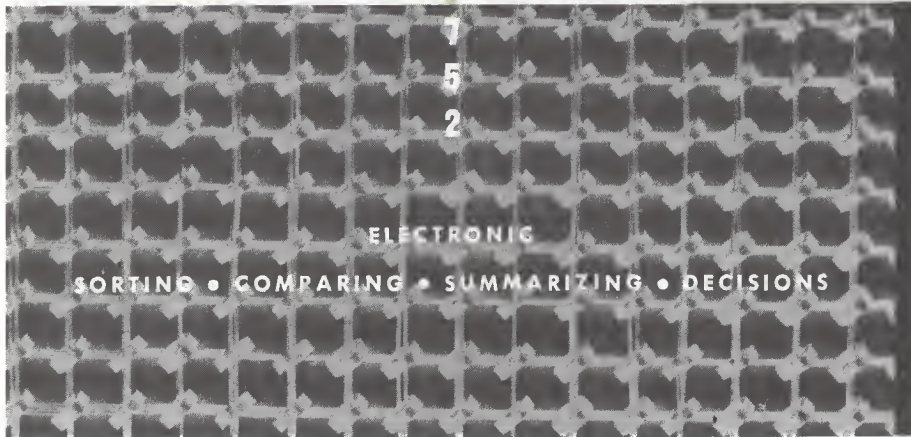
*Provides additional programming flexibility . . .* Programs or sub-routines can be stored on punched cards, then read into the system as needed . . . permits greater utility of internal memory for processing . . . and in many cases serves as a valuable addition to programs stored on punched paper tape, or on magnetic-tape ledger records.

*Provides flexible external storage of data . . . compatible with other IDP or EDP systems . . .* The ability to store data on punched cards, punched paper tape, or magnetic-tape ledgers provides outstanding flexibility in machine communication. This ability not only brings a high degree of automation to the 390; it provides the necessary automation media . . . in machine-language . . . to your IDP or EDP systems.



**Provides versatile**

REGISTER REPORT			
THE 390 RETAIL STORE		DATE	REGISTER & DEPT.
		MAY 30	2 1 0 1 0 0
TYPE OF SALE	CHARGE	5	7.45
	CASH	8	25.18
	C.O.D.	6	75.80
	CATERING	1	50.75
	LEASE		.00
	C.C.A.	1	45.00
	J PAY	1	1.25
TOTAL		25	203.43
NON-MERCHANDISE	WORK ROOM	1	1.00
	LEFT WASH	1	1.25
	DISCOUNT		.00
	TAX	1	1.15
	RETURNS		.00
TOTAL		1	1.00
CLERK SALES		12.1	9.50
		2	1.52
		3	3.24
		4	2.32
		5	4.74
TOTAL		19.7	.00



**ELECTRONIC**  
**SORTING • COMPARING • SUMMARIZING • DECISIONS**

## **console input and output facilities**

*Provides fast, efficient communication with the processor . . .* Up to twelve digits of data can be entered and/or printed in one operation. Full, flexible amount keyboard permits simultaneous depression of multiple digits—and allows the operator to double-check the entry prior to its introduction into the system. Alpha-numeric data can be printed on hard-copy records as it is entered . . . provides a permanent, printed audit-trail of all console operations.

*Provides outstanding programming flexibility . . .* Original programs and subsequent program changes are entered quickly and efficiently on the console keyboard . . . simultaneously printing the program on hard-copy, human-language records. Similarly, this flexibility greatly simplifies programming for specialized applications . . . or for one-time problems.

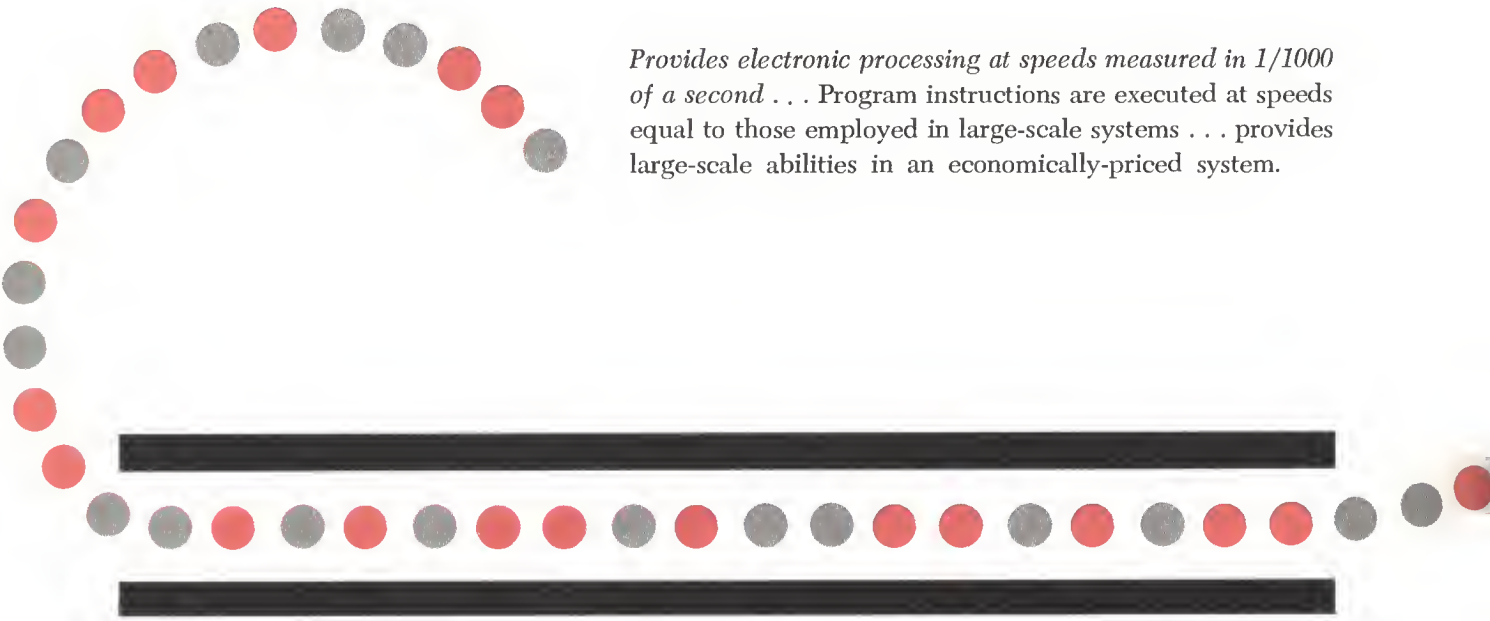
*Provides complete flexibility in forms design . . .* Console carriage accommodates forms up to 26 inches in width . . . permits varied size records to be used without one imposing restrictions over another. Split platen and other carriage features permit maximum efficiency in posting and updating multiple forms.

*Provides valuable signal lights and operator controls . . .* These operator aids highlight when operator supervision is necessary . . . designate when peripheral equipment is ON or OFF . . . indicate which memory units are being affected as each step of the program is performed, etc. Thus they simplify console attention and greatly facilitate the “checking-out” of programs.

*Provides automatic continuous-forms handling . . .* The 390 pin-feed forms-handler is easily programmed to accommodate all types of continuous forms spacing and alignment requirements. Thus it automates much of the paper handling . . . speeds processing procedures . . . and eliminates many costly operations normally associated with the movement of paper.



## **Provides versatile, high-speed, internal operation**

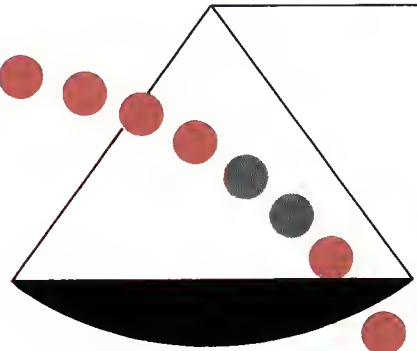


*Provides electronic processing at speeds measured in 1/1000 of a second . . . Program instructions are executed at speeds equal to those employed in large-scale systems . . . provides large-scale abilities in an economically-priced system.*

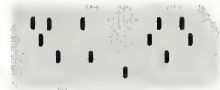
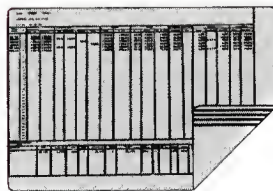
*Permits data in random order to be electronically sorted into desired sequences . . . Data from any of the input sources can be read into the 390 system—in random order—and the processor will electronically re-arrange the information according to the specific program . . . eliminates separate sorting operations . . . eliminates specialized sorting equipment.*



*Provides complete electronic arithmetic . . .* Add, subtract, multiply, and divide, or "chain-calculations" and intricate mathematical formulas are all completed at electronic speeds. This ability to perform all types of mathematical computations provides a truly integrated system . . . and eliminates time-consuming independent operations and equipment.

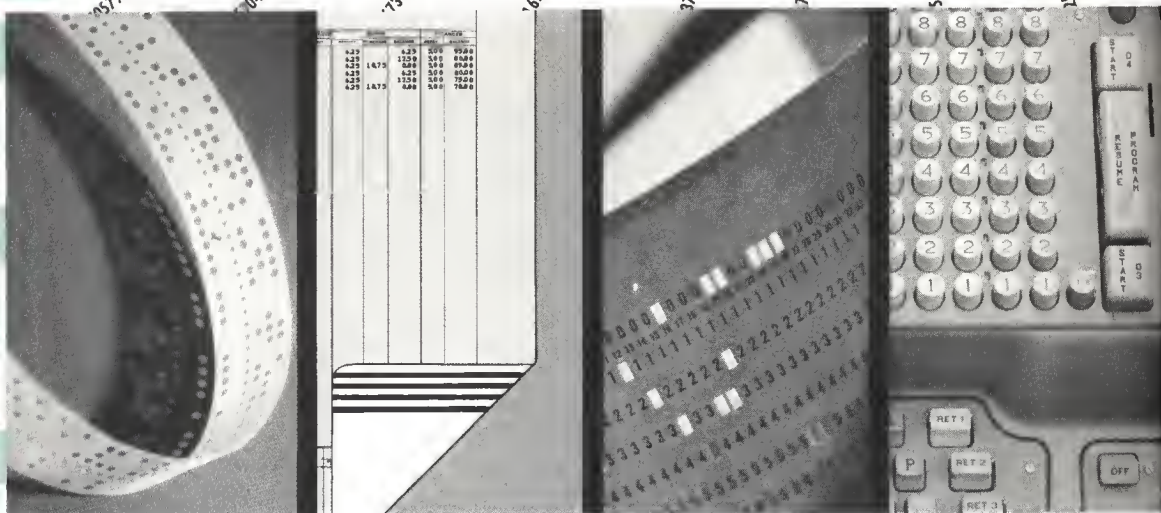


*Provides comparisons, tests, and decisions performed at electronic speeds . . .* "Are this employee's wages over or under the taxing limits?" "Is this inventory balance over or under the required in-stock-minimum?" "Is this account past due?" and many more are electronically determined by the NCR 390 . . . and the corresponding program instructions are automatically performed . . . all independent of operator attention. Provides a truly versatile system . . . and eliminates time-consuming independent operations and equipment.



*Provides electronic control of peripheral equipment . . .* This ability to control printing, paper tape input and output, punched card input and output—all electronically by the processor—provides an automated system with a minimum of operator attention . . . and at a high-degree of reliability heretofore difficult to obtain.

**SORTING • COMPARING**  
**SUMMARIZING • DECISIONS**



## **Provides outstanding programming flexibility**

*Permits all four input facilities to be used for programming . . .* Original programs are set up using the console keyboard and are simultaneously captured onto magnetic-tape records, punched paper tape, or punched cards for permanent storage. All may be used simultaneously or selectively . . . provides wide flexibility in programming . . . and makes a greater amount of the internal memory capacity available for processing functions.

*Provides a versatile, single-word, four-address method of programming the processor . . .* Program instructions are made up of a simple 12-decimal word command. Each word is a complete instruction which defines the type of operation, the addresses of the data to be acted upon, the address where the answer is to be stored, and the address of the next instruction. Reduces the number of commands necessary to complete a program . . . and simplifies programming procedures.

*Provides flexible external programming of the input and output equipment . . .* Console printing is controlled through the use of individual units which are programmed according to the hard-copy format for each application. Paper tape and punched card recording are controlled by easily programmed terminal boards within the Tape Recorder and Punch Card Coupler. Continuous Forms Handler is programmed through the use of individual spacing selectors. Thus the NCR 390 provides complete flexibility . . . designed with simplicity of programming in mind.

*Provides a complete multiple-duty electronic system . . .* The 390 is quickly and easily changed from one application to another. Permits standardization of many accounting and auditing procedures . . . provides complete flexibility in forms design . . . eliminates the need for many specialized machines . . . simplifies operator training.

*Provides fast, accurate adaptability in changing requirements . . .* New systems and procedures can be inaugurated without the need for costly compromises in methods. New systems and procedures need not be delayed because . . . as so often is the case . . . the equipment in use is not flexible enough to be efficiently adapted to new methods.



## **Provides outstanding versatility for your accounting, auditing, and methods departments**

*Provides complete flexibility in forms design . . .* Console carriage accommodates forms up to 26 inches in width . . . permits varied size records to be used—without one imposing restrictions over another. Split platen and other carriage features permit maximum efficiency in posting and updating multiple forms.

*Provides immediately accessible records that can be read by people as well as the 390 . . .* Magnetic-tape storage is tied directly to its hard-copy counterpart . . . permits simultaneous “finger-tip” accessibility to both human-language and electronic-language. Permits unlimited random-access to external storage of data.

*Provides complete adaptability to changing requirements . . .* New systems and procedures can be inaugurated without the need for costly compromises in methods and systems. Eliminates the need for many specialized machines and operations. Permits standardization of many accounting and auditing procedures . . . simplifies operator training.

*Provides complete compatibility with other IDP or EDP systems . . .* Permits immediate integration of the 390 into existing tabulating or electronic data processing systems. Provides outstanding flexibility in machine communication.

Requires a minimum of conversion time.

*Provides outstanding versatility and ease of programming . . .* Programs can be stored on magnetic-tape ledger records, punched paper tape, and punched cards. Provides a flexible, single-word, four-address method of programming the processor. Program changes are simple and easy to make. Permits greater utility of internal memory for processing.

*Provides highly-efficient console operation . . .* Up to 12 digits of data can be entered and/or printed in one operation. All input and output data can be printed on hard-copy . . . provides a permanent, printed, audit-trail of all console operations. Signal lights and other operator controls simplify console operation. Simplifies programming for specialized applications, or for one-time problems. Provides high-speed trial balancing and reporting.

*Provides sorting, summarizing, comparing, testing, arithmetic, and decisions at electronic speeds . . .* All performed independent of operator attention. Provides a highly automated and integrated system. Eliminates time-consuming and costly independent operations and equipment. Provides large-scale capabilities in an economically-priced system.



**FOR ALL TYPES  
OF BUSINESS**



**FINANCIAL INSTITUTIONS**



**RETAIL STORES**



**UNIVERSITIES**



**TRANSPORTATION COMPANIES**



**CONSTRUCTION COMPANIES**



**MANUFACTURERS**



**GOVERNMENT**



**ACCOUNTING FIRMS**



**INSURANCE COMPANIES**



**ENGINEERING FIRMS**



**UTILITIES**



**HOSPITALS**

## **The NCR 390 speeds the flow of data, reduces processing costs**

Management today . . . more than ever before . . . is dependent upon fast, accurate organization of data which quickly supplies the facts and figures necessary to make logical, efficient decisions.

The versatile NCR 390 . . . a major breakthrough in economical data processing . . . shortens the time between original entry and final reports—and brings low-cost, practical electronics to you . . . eliminates hundreds of time-consuming manual and mental operations . . . streamlines data processing procedures . . . simplifies proving, balancing, and auditing . . . provides a direct tie-in between the original entry and final reports . . . simplifies personnel training procedures . . . and provides accounting, engineering, statistical, and management data in time to be used most effectively.



**FOR ALL  
REPORTING  
APPLICATIONS**

SAVINGS ACCOUNTING • COMMERCIAL LOANS  
SALES ANALYSIS • MORTGAGE ACCOUNTING  
• TAX REPORTING • INVENTORY ACCOUNTING •  
PAYROLL ACCOUNTING • COMMISSION RECORDS  
• BILLING • PRODUCTION CONTROL •  
MARKET ANALYSIS • ROYALTY ACCOUNTING •  
TRUST ACCOUNTING • DEPRECIATION RECORDS •  
ACCOUNTS RECEIVABLE • ACCOUNTS PAYABLE •  
COST ACCOUNTING • ENGINEERING CALCULATIONS

**ELECTRONIC**  
**SORTING • COMPARING**  
**SUMMARIZING • DECISIONS**



## **REPORTS**

- **MANAGER**
- **TREASURER**
- **FOREMAN**
- **ACCOUNTANT**
- **PRESIDENT**
- **BOARD  
CHAIRMAN**



**Trained NCR representatives are prepared to help you**





## **every step of the way**

NCR will help you determine if electronic data processing will be feasible and profitable.

NCR will train your personnel on how the 390 will provide the necessary records and reports . . . and assist in developing the most efficient methods and procedures of processing data.

NCR will train and assist your personnel to program the 390 to meet your specific data processing requirements.

NCR will assist you in planning for conversion to electronic data processing . . . work with you during the conversion period . . . and be available at all times for consultation.

NCR specialists and facilities will be constantly available to assure all units are maintained at peak efficiency.

*. . . all backed by seventy-seven years of world-wide system-service experience.*

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**Investigation is the forerunner to increased profits**

**THE NATIONAL CASH REGISTER COMPANY • DAYTON 9, OHIO**

1039 OFFICES IN 121 COUNTRIES . . . 77 YEARS OF HELPING BUSINESS SAVE MONEY